

CLAIMS

Sub
A1

1. A method of delivering pharmaceutical product comprising the operations of:

depositing a pharmaceutical product across a plurality of driver elements;

positioning the plurality of driver elements within four inches of a human orifice;

delivering electrical power to the plurality of driver elements causing the plurality of driver elements to deliver acoustic energy to the pharmaceutical product, the acoustic energy focused by acoustic lenses to cause ejection of droplets of pharmaceutical product into the human orifice.
2. The method of claim 1 wherein (the drive elements) are piezo-electric transducers.
3. The method of claim 1 wherein all (drive elements) in (the plurality of drive elements) are simultaneously provided with electrical energy to cause simultaneous ejection of multiple droplets of pharmaceutical product.
4. The method of claim 1 wherein each drive element in (the plurality of drive elements) is provided with electrical energy within a five second time interval to cause ejection of multiple droplets of pharmaceutical product over the five second time interval.
5. The method of claim 1 further comprising the operation of:

focusing the acoustic energy from each driver using a plurality of acoustic lenses.

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6. The method of claim 5 wherein the acoustic lenses are fresnel lenses.

7. The method of claim 5 wherein the lenses are spherical molded plastic lenses.

Sub A2 8. The method of claim 7 wherein the spherical molded plastic lenses are formed on a plastic substrate and (the drivers) are bonded to the plastic substrate.

9. The method of claim 1 wherein the driver elements output RF energy.

Sub A3 10. The method of claim 9 wherein the RF energy has a frequency higher than 300MHz in order to generate a droplet sizes smaller than 6 micrometers.

11. The method of claim 9 wherein the RF energy has a frequency lower than 10 MHz.

Sub A4 12. The method of claim 1 wherein (the RF energy) generates capillary droplets of pharmaceutical product, each droplet having a diameter less than 10 micrometers.

13. The method of claim 1 wherein the orifice is a mouth, the method further comprising the operation of:

opening the mouth; and

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inserting (the plurality of drive elements) into the mouth before delivering electrical power to (the plurality of drive elements.)

14. The method of claim 1 wherein the orifice is a nostril of a nose, the method further comprising the operation of:

inserting (the plurality of drive elements) into the nose before delivering electrical power to (the plurality of drive elements.)

15. A method of delivering pharmaceutical product comprising the operations of:

distributing a pharmaceutical product over a plurality of lenses; and

focusing acoustic energy from the plurality of lenses to cause ejection of droplets of pharmaceutical product.

16. The method of claim 15 further comprising the operation of:

detecting the velocity of ambient air; and

causing the ejection of droplets when the velocity of ambient air reaches a critical air speed.

17. The method of claim 15 wherein the focusing occurs for a period of less than five seconds to deliver a preset dosage of pharmaceutical product.